

N. GEAR.

Improvement in Lanterns.

No. 114,432.

Patented May 2, 1871.

Fig. 1.

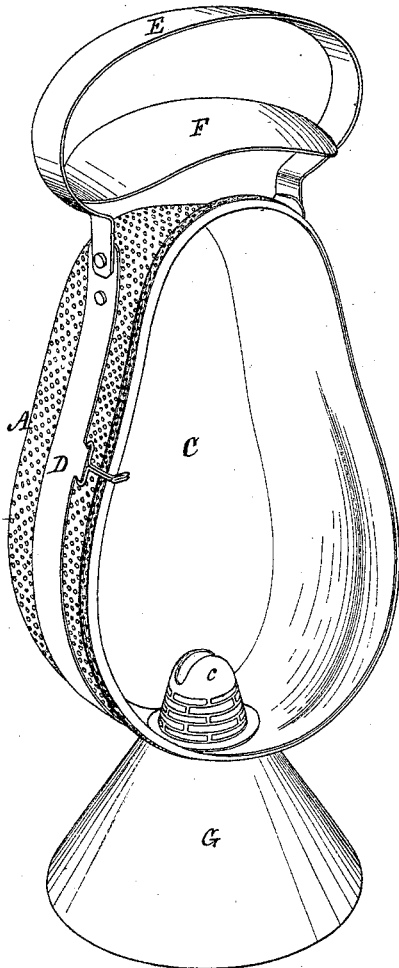


Fig. 2.

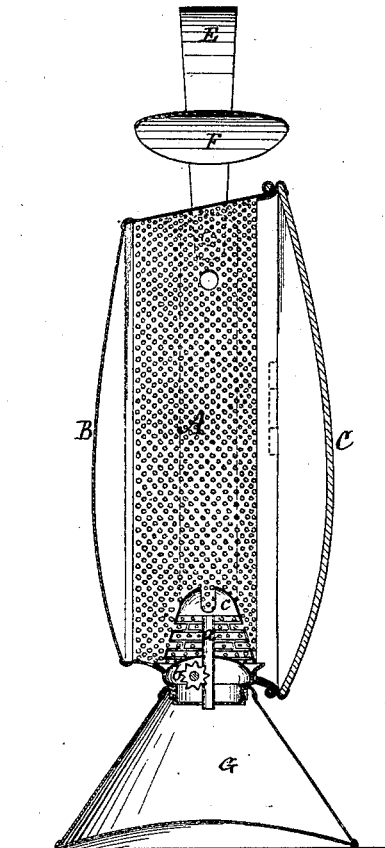
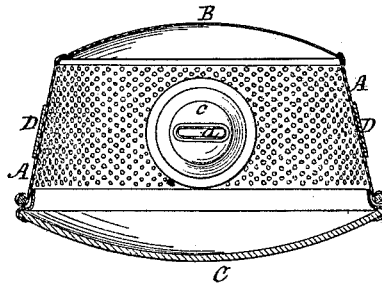


Fig. 3.



Witnesses
Edmund Masson } Nathaniel Gear.
By atty A. B. Stoughton.

United States Patent Office.

NATHANIEL GEAR, OF NEWARK, OHIO.

Letters Patent No. 114,432, dated May 2, 1871.

IMPROVEMENT IN LANTERNS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, NATHANIEL GEAR, of Newark, in the county of Licking and State of Ohio, have invented certain new and useful Improvements in Portable Reflecting Lanterns; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 represents a perspective view of the lantern;

Figure 2 represents a vertical transverse section thereof; and

Figure 3 represents a horizontal section through the same.

Similar letters of reference, where they occur in the separate figures, denote like parts of the lantern in the drawing.

My invention relates to a portable or hand-lantern, having a concave reflecting back and a curved or swelled glass in front, and flaring perforated sides, as will be more particularly hereinafter referred to.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same in connection with the drawing.

The body of the lantern is formed of a rim or sides, A A, made of perforated tin or other metal, to which is fastened a curved or swelled back, B, the concave side of which acts as a reflector of great power.

The sides flare out from the back, as seen in fig. 3, so that the light may be reflected laterally as well as in front.

The glass C in front of the lantern may be set in a swinging frame to gain access to the interior of the lantern, or it may be in the permanent part of the frame, if so preferred. This glass is of the same general form and shape as that of the reflector, and its concave side faces the concavity of said reflector.

Around the rim A there is a band, D, to which the handle E is pivoted, and to the handle is attached a shield or guard, F, to protect the hand of the user from the heat of the metal.

The oil-reservoir G is connected to the body of the lantern by any suitable fastening that will admit of its easy detachment and replacement for filling, cleaning, or other purposes.

The wick-tube *a*, wick-raiser *b*, and dome *c* with its air or draught-openings are connected with this reservoir to form a lamp.

The lantern as a whole, constructed as herein described, gives a more brilliant and stronger reflected light than any I have ever seen of anything like its simplicity and cheapness.

They may be made of various sizes, and the curved or swelled back may be of bright tin, or of tinned or silvered copper.

The glass must be formed in a mold, and may be of very thick glass, so as not to be easily broken.

The shape and form which I prefer to give to the reflector and glass is to make the upper portions a segment of a cylinder and the lower portions a segment of a hemisphere. This form, while not so expensive as a parabolic reflector, has much of the character of that-shaped reflector in its reflecting properties. I find it best to make the glass of the same shape and form as that of the back.

The perforations in the rim or sides furnish abundant air for supporting free combustion without admitting so much as to cause the flame of the lamp to flicker.

While the glass C may be more or less concave than the reflecting back B, yet I find the best results when of the same curved form. A flat glass will give off a moderately good light, as I have proven in my experiments and actual tests, but I prefer, as above stated, the curved form.

It is difficult to define the exact curvature or concavity of the back and glass, and would necessarily restrict my invention were I to do so. That shown I find to produce the best results after many experiments to test the best form.

The oil-reservoir G serves as a base and support for the lantern when set down anywhere. I have represented it as screwed to the body of the lantern, but other fastenings may be used.

Having thus fully described my invention,

What I claim therein as new, and desire to secure by Letters Patent, is—

A hand-lantern, composed of flaring perforated sides, a curved or swelled reflecting back, and a curved or swelled glass front, and furnished with a lamp and handle, as and for the purpose substantially as herein described and represented.

NATHANIEL GEAR.

Witnesses:

A. B. STOUGHTON,
EDMUND MASSON.